CHAPTER 42

SCRUB OAK TYPE

TYPE DESCRIPTION

A. Stand Composition

More than 50 percent of the stand consists of **black oak** (*Quercus velutina*), **white oak** (*Q. alba*), **northern pin oak** (*Q. ellipsoidalis*), or **bur oak** (*Q. macrocarpa*). Site index is 30-50.

B. Associated Species

1. Southern Wisconsin

   Shagbark hickory (*Carya ovata*), **red maple** (*Acer rubrum*), **paper birch** (*Betula papyrifera*), **aspen** (*Populus* spp.), or **black cherry** (*Prunus serotina*).

2. Northern Wisconsin

   Aspen, **red maple**, **paper birch**, **jack pine** (*Pinus banksiana*), **red pine** (*P. resinosa*), or **white pine** (*P. strobus*).

C. Soil Preference

Ridge tops, sandy sites, poorly drained mineral soil, or sandy loam areas.

D. Range of Habitat Types

1. Northern Wisconsin

   QAE, QGCe, AQV, QAp, PAm, and PMV (Kotar et al., 1988).

2. Southern Wisconsin

   Habitat type determination is in progress (Kotar, 1990).

SILVICAL CHARACTERISTICS

Species	Black oak	White oak	Northern pin oak	Bur oak
Flowers (All monoecious)	April-May	April-May	April-May	April-May
Seed Ripens	Sept.-Oct., second year	Sept.-Oct., first year	Sept.-Oct., second year	Sept.-Oct., first year
Minimum Seed Bearing Age	15 years	30 years	15 years	35 years
Good Seed Years	Every 2 to 3 years	Every 4 to 10 years	Every 2 to 3 years	Every 2 to 3 years
Site Requirements	Mineral soil with light leaf litter	Light to moderate leaf litter	Mineral soil	Mineral soil

Seed Germinates	Spring after seed drop	Immediately after seed drop	Spring after seed drop	Either fall or spring
Shade Tolerance	Intermediate less than white oak	Intermediate	Intolerant	Intolerant

MANAGEMENT ALTERNATIVES

The management objective should be identified in relation to other land management objectives using the habitat type as the preferred indicator of site potential. Possible management alternatives for the scrub oak cover type include:

- Maintaining cover type -- manage for fuel wood, pulpwood, or tie quality logs.
- Converting cover type -- consider softwood establishment for management objective.

SILVICULTURAL SYSTEM

Even-age management to be applied.

MANAGEMENT RECOMMENDATIONS

A. Seedling/Sapling Stands (0-5" DBH)

Allow stand to develop naturally.

B. Pole Stands (5-11" DBH)

This is the typical size at time of harvest. Recommended rotation age is 45 to 70 years. Clumps of large diameter trees may be retained for wildlife or aesthetic purposes. Clumps should be one-eighth to one-half acre in size, numbering 2 to 3 for every 40 acres harvested. Consider leaving larger units or shapes so that remaining oak may be managed as a stand in the future, rather than as clumps too small to manage economically.

NOTE: White oak acorns are preferred by wildlife.

C. Sawtimber Stands (>11" DBH)

Usually small sawtimber. Use same recommendations as for pole stands.

D. Regeneration Techniques

1. Regeneration Cut -- natural regeneration through stump sprouting.

   NOTE: Oak sprouts located high on the parent stump may acquire decay from the stump.

   a) Mixed with aspen.

      Consider aspen for possible management objective. Harvest early (at 45 years). Residual (0 to 5 inch diameter) should be removed to promote sprouting.

   b) Mixed with jack pine.

      Consider jack pine for possible management objective. Scatter pine slash to encourage seeding of pine, or convert by planting pine seedlings.

c) Mixed with white pine.

Consider white pine for possible management objective if stocking is adequate.

2. Shelterwood Cut -- For sites with site index approaching 50.

Consider tie-quality logs for management objective. See Chapter 41 on Oak Silviculture. Consider use in highly critical aesthetic areas.

E. Conversion

- Consider relative abundance of scrub oak type when converting to pine. Small pockets of scrub oak may be important for wildlife needs. Review N.R. 1.24 (5), Wis. Adm. Code, and M. C. 2112.

- On extremely poor, dry sandy sites (e.g., QAE habitat type) or on sandy sites with high water tables, jack pine rather than red pine may be more suitable for conversion.

- Consider the future need of herbicide release to establish pines since scrub oak is a very durable type.

SUPPLEMENTAL INFORMATION

See Chapter 41 on Oak Silviculture for stocking curves and other pertinent information.

REFERENCES

Kotar, J., J. A. Kovach, and C. T. Locey. 1988. *Field guide to habitat types of northern Wisconsin.* Univ. Wisconsin-Madison and Wisconsin Department of Natural Resources. 217 pp.

Kotar, J. 1990. Personal communication.